

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of permitting access to selected information normally included in a payload of a packet upon which encrypting security processing has been performed by a node in a packet switched network during transmission of the packet to another node, said method comprising:

prior to performing encrypting security processing on a payload of a packet, storing information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, said selected information including transport level information, said transport level information being useable by at least one intermediate nodes between said node and said another node in the packet switched network to provide value added services relative to the transmission;

performing said encrypting security processing on said payload of said packet;
and

transmitting said packet including said header and said payload upon which encrypting security processing has been performed in the packet switched network, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet by a node in the packet switched network.

2. Cancelled (Without disclaimer or prejudice).

3. (Previously Presented) A method according claim 1, wherein said transport level information includes transport protocol information including Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Internet Control Message Protocol (ICMP) or port number information.

4. (original) A method according to claim 1, wherein said selected information is stored in a security protocol header of said header of said packet, said security protocol header not being subject to said encrypting security processing.

5. (original) A method according to claim 4, wherein said selected information is stored in a sequence number field of said security protocol header of said packet.

6. (original) A method according to claim 5, wherein said sequence number field is modified to include information representative of said selected information.

7. (original) A method according to claim 6, wherein leading bits of said sequence number field are used to provide information related to transport level information of said packet and remaining bits of said sequence number field are used to provide information regarding a sequence number of said packet.

8. (original) A method according to claim 7, wherein said transport level information includes a transport protocol ID identifying a particular transport protocol to be used and a port number ID identifying a particular port to be used.

9. (original) A method according to claim 1, wherein said encrypting security processing is performed according to the Encapsulating Security Payload (ESP) protocol.

10. (original) A method according to claim 1, wherein said encrypting security processing is performed according to the Authentication Header (AH) protocol.

11. (Currently Amended) A packet switched network comprising:

a network; and

a plurality of nodes interconnected to each other by said network to permit communication between said nodes using packets[.];

wherein ~~each~~ at least one node transmits a packet to another node in a manner to permit access to selected information normally included in a payload of said packet upon which encrypting security processing has been performed during said transmission of said packet from said at least one node to said another node, said selected information including transport level information, said transport level information being useable by at least one intermediate nodes between said at least one node and said another node in the network to provide value added services relative to the transmission[.];

wherein the at least one node, prior to performing encrypting security processing on a payload of a packet, stores information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, performs said encrypting security processing on said payload of said packet, and transmits said packet including said header and said payload upon which encrypting security processing has been performed, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet during transmission of said packet from said at least one node to said another node.

12. Cancelled (Without disclaimer or Prejudice).

13. (Currently Amended) A packet switched network according to claim 12, wherein said transport level information includes transport protocol information including Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Internet Control Message Protocol (ICMP) or port number information.

14. (original) A packet switched network according to claim 11, wherein said selected information is stored in a security protocol header of said header of said packet, said security protocol header not being subject to said encrypting security processing.

15. (original) A packet switched network according to claim 14, wherein said selected information is stored in a sequence number field of said security protocol header of said packet.

16. (original) A packet switched network according to claim 15, wherein said sequence number field is modified to include information representative of said selected information.

17. (original) A packet switched network according to claim 16, wherein leading bits of said sequence number field are used to provide information related to transport level information of said packet and remaining bits of said sequence number field are used to provide information regarding a sequence number of said packet.

18. (original) A packet switched network according to claim 17, wherein said transport level information includes a transport protocol ID identifying a particular transport protocol to be used and a port number ID identifying a particular port to be used.

19. (original) A packet switched network according to claim 11, wherein said encrypting security processing is performed according to the Encapsulating Security Payload (ESP) protocol.

20. (original) A packet switched network according to claim 11, wherein said encrypting security processing is performed according to the Authentication Header (AH) protocol.

21. (New) A method of permitting access to selected information normally included in a payload of a packet upon which encrypting security processing has been performed by a node in a packet switched network during transmission of the packet to another node, said method comprising:

prior to performing encrypting security processing on a payload of a packet, storing information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said node and said another node in the packet switched network to provide value added services relative to the transmission;

performing said encrypting security processing on said payload of said packet;
and

transmitting said packet including said header and said payload upon which encrypting security processing has been performed in the packet switched network, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet by a node in the packet switched network; and wherein said value added services comprise differentiated services.

22. (New) A method of permitting access to selected information normally included in a payload of a packet upon which encrypting security processing has been performed by a node in a packet switched network during transmission of the packet to another node, said method comprising:

prior to performing encrypting security processing on a payload of a packet, storing information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said node and said another node in the packet switched network to provide value added services relative to the transmission;

performing said encrypting security processing on said payload of said packet;
and

transmitting said packet including said header and said payload upon which encrypting security processing has been performed in the packet switched network, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet by a node in the packet switched network; and wherein said value added services comprise management of nodes for metering.

23. (New) A method of permitting access to selected information normally included in a payload of a packet upon which encrypting security processing has been performed by a node in a packet switched network during transmission of the packet to another node, said method comprising:

prior to performing encrypting security processing on a payload of a packet, storing information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said node and said another node in the packet switched network to provide value added services relative to the transmission;

performing said encrypting security processing on said payload of said packet;

and

transmitting said packet including said header and said payload upon which encrypting security processing has been performed in the packet switched network, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet by a node in the packet switched network; and wherein

said value added services comprise policing of at least one of the nodes.

24. (New) A packet switched network comprising:

a network; and

a plurality of nodes interconnected to each other by said network to permit communication between said nodes using packets;

wherein at least one node transmits a packet to another node in a manner to permit access to selected information normally included in a payload of said packet upon which encrypting security processing has been performed during said transmission of said packet from said at least one node to said another node, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said at least one node and said another node in the network to provide value added services relative to the transmission;

wherein the at least one node, prior to performing encrypting security processing on a payload of a packet, stores information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, performs said encrypting security processing on said payload of said packet, and transmits said packet including said header and said payload upon which encrypting security processing has been performed, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet during transmission of said packet from said node to said at least one another node; and wherein

said value added services comprise differentiated services.

25. (New) A packet switched network comprising:

a network; and

a plurality of nodes interconnected to each other by said network to permit communication between said nodes using packets;

wherein at least one node transmits a packet to another node in a manner to permit access to selected information normally included in a payload of said packet upon which encrypting security processing has been performed during said transmission of said packet from said at least one node to said another node, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said at least one node and said another node in the network to provide value added services relative to the transmission;

wherein the at least one node, prior to performing encrypting security processing on a payload of a packet, stores information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, performs said encrypting security processing on said payload of said packet, and transmits said packet including said header and said payload upon which encrypting security processing has been performed, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet during transmission of said packet from said node to said at least one another node; and wherein

said value added services comprise policing of at least one of the nodes.

26. (New) A packet switched network comprising:

a network; and

a plurality of nodes interconnected to each other by said network to permit communication between said nodes using packets;

wherein the at least one node transmits a packet to another node in a manner to permit access to selected information normally included in a payload of said packet upon which encrypting security processing has been performed during said transmission of said packet from said at least one node to said another node, said selected information including transport level information, said transport level information being useable by at least one intermediate node between said at least one node and said another node in the network to provide value added services relative to the transmission;

wherein the at least one node, prior to performing encrypting security processing on a payload of a packet, stores information corresponding to selected information normally included in a payload of said packet in a field in a header of said packet where said field is not subject to said encrypting security processing, performs said encrypting security processing on said payload of said packet, and transmits said packet including said header and said payload upon which encrypting security processing has been performed, thereby permitting access to said selected information normally included in said payload of said packet via said header of said packet during transmission of said packet from said at least one node to said another node; and wherein

said value added services comprise management of at least one node for metering.